

Work Order ID 69047

Page 1

Wednesday, April 27, 2011 11:25:45 AM

Item ID: D3137-043

Accept



Setup Start



Revision ID:

Stop



Item Name: Bracket Assembly

Start Date: 4/27/2011 Start Qty: 6.00



Cust Item ID:

Required Date: 5/3/2011 Req'd Qty: 6.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

4/27/11

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D3137

Rev F

100

0.00



BAND SAW

Bandsaw

Memo

0.00

Jeaspa Bandsaw

Cut blanks: (.500" x 2.000") 5.570" long

SL 11/05/16

⑥

110

0.00



HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

1-Machine D3137-7 as per Folio FA3308and Dwg D3137 Identify as D3137-7
2-Debur 3-Scribe batch number

SL 11/05/18

⑥

120

0.00



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

SL 11/05/18

6

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: D3137-7 PAR #: N/A Fault Category: Machining/Operator Error NCR: (Yes) No DQA: ✓ Date: 11.05.20
 Resolution: Scrap Disposition: Scrap QA: N/C Closed: ✓ Date: 11/05/24

NCR: <u>69047</u>		WORK ORDER NON-CONFORMANCE (NCR) <u>\$75.00</u>						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
<u>11/05/18</u>	<u>110</u>	<u>- 1 part scrapped blank moved in jig while machining jig was not set correctly</u>	<u>11.05.19</u> <u>QS1042</u>	<u>- scrap & replace</u> <u>B14932</u>	<u>Sh</u> <u>11/05/18</u>	<u>one</u> <u>11/05/18</u>	<u>11.05.19</u> <u>QS1042</u>	<u>W10519</u>
		<u>RL operator error</u>						

NOTE: Date & initial all entries

Work Order ID 69047

Wednesday, April 27, 2011 11:25:45 AM



Page 2

Item ID:	D3137-043	Accept		Setup	Start	
Revision ID:					Stop	
Item Name:	Bracket Assembly					
Start Date:	4/27/2011	Start Qty:	6.00		Cust Item ID:	
Required Date:	5/3/2011	Req'd Qty:	6.00		Customer:	
Reference:						

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	
	QC:	Date:	SPC (Y/N):	Date:		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 	QC8- Inspect parts - second check	0.00							
QC Quality Control	Memo	0.00		<i>mf 4/05/18</i>		<u>6</u>			
140 	Small Fab	0.00							
Small Fab Small Fab	Memo	0.00							
	Assemble D3137-043 as per Dwg D3137								
150 	QC5- Inspect part completeness to step on W/O	0.00							
QC Quality Control	Memo	0.00		<i>8 4/05/19</i>		<u>(46)</u>			

ES 11/05/19 (6)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 69047

Wednesday, April 27, 2011 11:25:45 AM



Page 3

Item ID: D3137-043

Accept



Setup Start



Revision ID:

Stop



Item Name: Bracket Assembly

Start Date: 4/27/2011 Start Qty: 6.00



Cust Item ID:

Required Date: 5/3/2011 Req'd Qty: 6.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Identify as per dwg & Stock Location: <u>235B</u>	0.00							
	Packaging								
	Memo	0.00							
	Packaging								
170	QC21- Final Inspection - Work Order Release	0.00							
	QC								
	Memo	0.00							
	Quality Control								

11/5/19

11/5/19

11-05-19

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, April 27, 2011 11:25:52 AM

Page 1

Work Order ID: 69047

Parent Item: D3137-043

Parent Item Name: Bracket Assembly



Start Date: 4/27/2011

Required Date: 5/3/2011

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP Rev:A 04.02.18 New issue KJ/DS
IPP Rev B 08.07.03 ECN1207 EC verified by DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MS24694-S101 Screw		Purchased	No			100	Each	29.0000	1	6			
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST290A				29					
					110363			29					
D3137-3 Guide		Manufactured	No			140	Each	22.0000	1	6			
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST235B				22					
					67064			22					
D3137-5 Washer		Manufactured	No			140	Each	2.0000	1	6			
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST235B				2					
					67015			2					

Handwritten notes:
 6
 4/27/05/19
 6
 4/27/05/19
 B67064 (GK)
 6
 4/27/05/19
 B68262 (GK)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, April 27, 2011 11:25:52 AM

Work Order ID: 69047



Parent Item: D3137-043



Parent Item Name: Bracket Assembly

Start Date: 4/27/2011

Required Date: 5/3/2011

Start Qty: 6.00

Required Qty: 6.00

M174B0.500X02.000

Purchased

No

140

f

54.6600

0.4643

2.932421



SL 11/05/16

17-4 SS Bar .500 x 2.00

Location

Loc Qty

Loc Code

MAT050

54.66

100843

12.9

103089

13

14932

23.8

19572

4.96

2.94

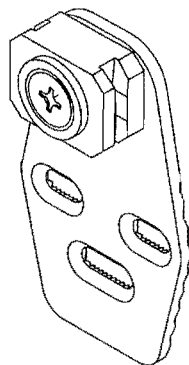
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

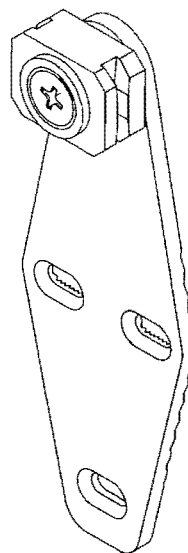
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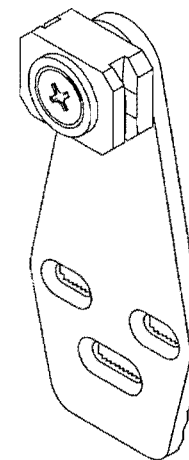
NOTE: Date & initial all entries



D3137-041 BRACKET ASSEMBLY



D3137-043 BRACKET ASSEMBLY



D3137-045 BRACKET ASSEMBLY

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 69047

PL11-04-27

F	REDRAWN & REFORMATTED IN SOLIDWORKS, SHEET 3 ZONE A.5 DIM 2.36 WAS 2.48, ZONE A.4 0.480 DIM WAS 0.805, ZONE A.8 0.67 DIM WAS 0.79, ZONE B.5 4.850 DIM WAS 4.975 & ZONE B.8 5.29 DIM WAS 5.41. REASON: PART TRIMMED DUE TO INTERFERENCE WITH EXECUTIVE INTERIOR.	AJS	08.05.30
E	ADD -045	RF	05.11.23
D	RE-DESIGN D3137-5; CHANGE DIMS	DS	04.11.03
C	ADD -043	DS	03.08.15
B	ADD RIDGES; ADD MATERIAL PROP	DS	03.01.16
A	NEW ISSUE	DS	02.04.17
REV.	DESCRIPTION	BY	DATE
DESIGN	DS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	<i>h</i>	DRAWING NO.	REV. F
MFG. APPR.	<i>Ant</i>	D3137	SHEET 1 OF 5
APPROVED	<i>Ant</i>	TITLE	SCALE
DE APPR.	<i>Ant</i>	BRACKET ASSEMBLY	NTS
DATE	08.05.30	<small>COPYRIGHT © 2002 BY DART AEROSPACE LTD THIS DOCUMENT IS PRINTED AND CORRECTING AIDS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

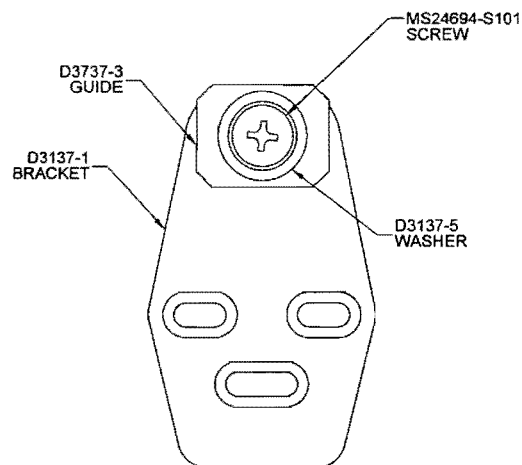
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

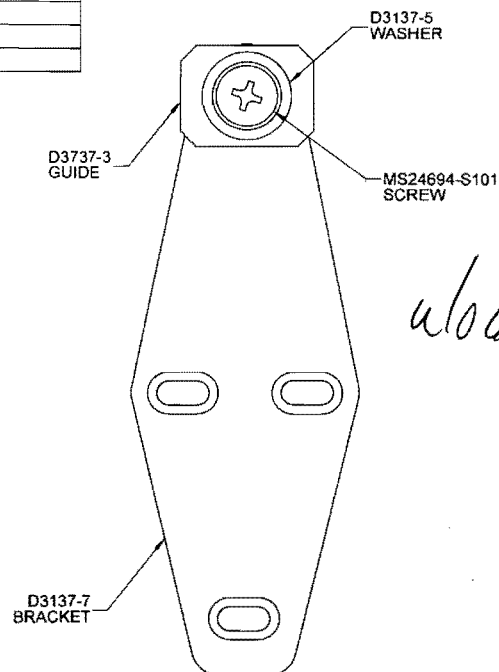
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

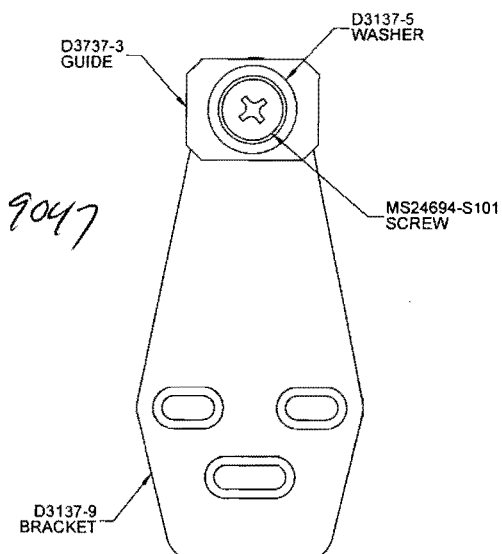
QTY. -041	QTY. -043	QTY. -045	PART NUMBER	DESCRIPTION
X			D3137-041	BRACKET ASSEMBLY
	X		D3137-043	BRACKET ASSEMBLY
		X	D3137-045	BRACKET ASSEMBLY
1			D3137-1	BRACKET
1	1	1	D3137-3	GUIDE
1	1	1	D3137-5	WASHER
	1		D3137-7	BRACKET
		1	D3137-9	BRACKET
1	1	1	MS24694-S101	SCREW



D3137-041 BRACKET ASSEMBLY



D3137-043 BRACKET ASSEMBLY



D3137-045 BRACKET ASSEMBLY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.18 lbs -041
: 0.32 lbs -043
: 0.27 lbs -045

RELEASED
28-06-16/10

DESIGN	DS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED		DRAWING NO. D3137	REV. F
MFG. APPR.		TITLE BRACKET ASSEMBLY	SCALE NTS
APPROVED		DATE 08.05.30	
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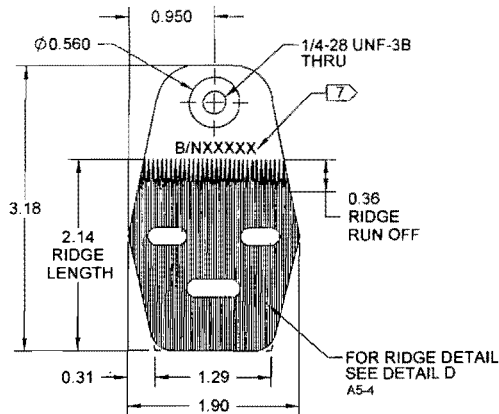
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

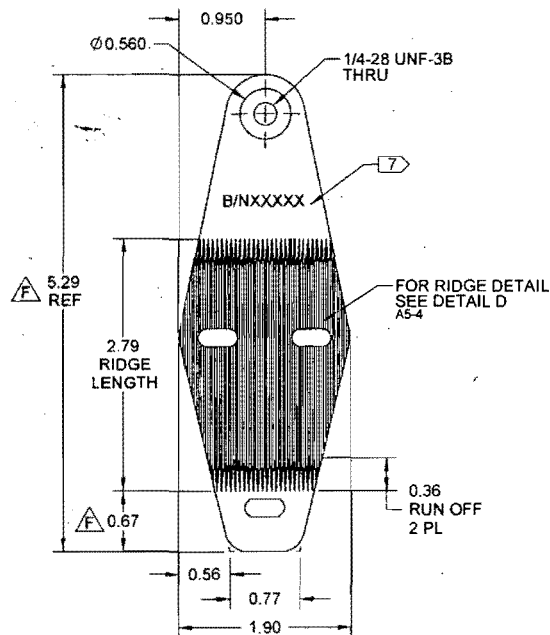
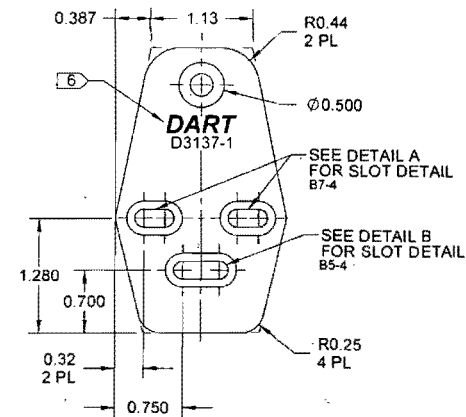
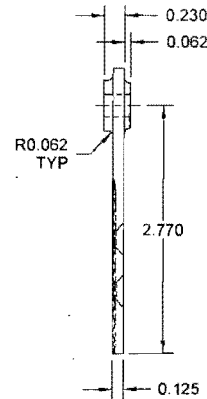
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

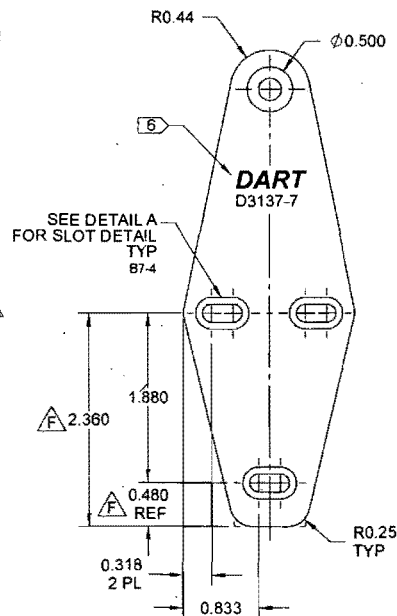
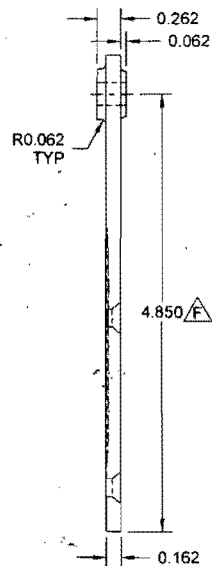
NOTE: Date & initial all entries






D3137-1 BRACKET



D3137-7 BRACKET



- NOTES:**
- 1) MATERIAL: -1 & -7
17-4PH STAINLESS STEEL
PER AMS 5604 OR 5643
MIN ULTIMATE TENSILE = 150 ksi
MIN YIELD TENSILE = 100 ksi
PER DART SPEC. M17-4-B
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
 - 6) IDENTIFICATION: ENGRAVE DART LOGO USING 0.20 HIGH LETTERS & P/N WITH USING .15 HIGH LETTERS TO A MAX. DEPTH OF 0.010.
 - 7) SCRIBE WITH DART B/N USING VIBRATING STYLUS
 - 8) WEIGHT: SEE ASSEMBLED WEIGHT ON SHEET 2
 - 9) -1 REPLACES PREMIER P/N B30-23000-105/-1

DESIGN	DS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D3137	SHEET 3 OF 5
APPROVED		TITLE	SCALE
DE APPR.		BRACKET ASSEMBLY	NTS
DATE	08.05.30	COPYRIGHT © 2002 BY DART AEROSPACE LTD	
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W/C 69047

RELEASED
ON 06-26-14

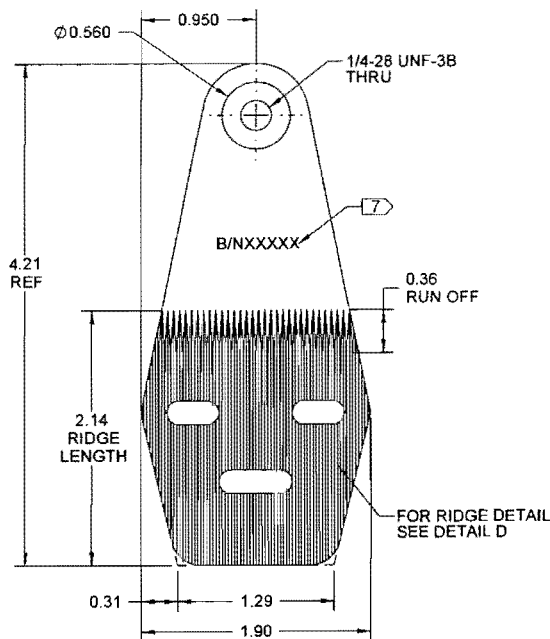
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

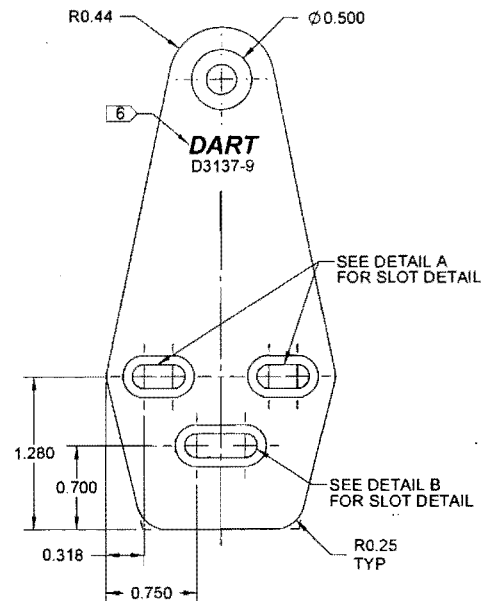
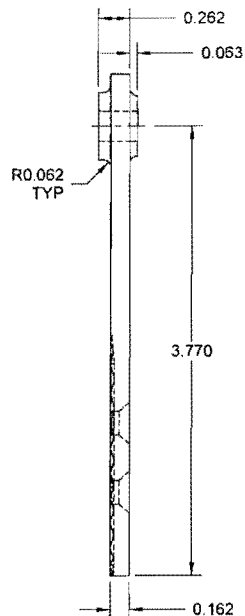
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

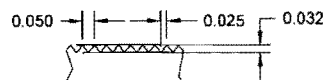
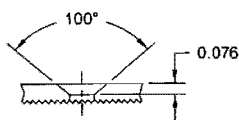
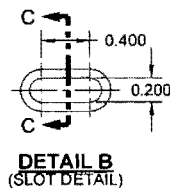
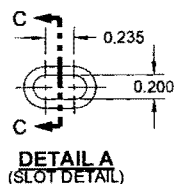


D3137-9 BRACKET



w/o 69047

RELEASED
08-05-30



**DETAIL D
SCALE 2X
(TYPICAL RIDGE DETAIL)**

- NOTES:**
- 1) MATERIAL: 17-4PH STAINLESS STEEL
PER AMS 5604 OR 5643
MIN ULTIMATE TENSILE = 150 ksi
MIN YIELD TENSILE = 100 ksi
PER DART SPEC. M17-4-B
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
 - 6) IDENTIFICATION: ENGRAVE DART LOGO USING 0.20 HIGH LETTERS & P/N WITH USING .15 HIGH LETTERS TO A MAX. DEPTH OF 0.010.
 - 7) SCRIBE WITH DART B/N USING VIBRATING STYLUS
 - 8) WEIGHT: SEE ASSEMBLED WEIGHT ON SHEET 2
 - 9) REPLACES PREMIER P/N B30-23000-105/-106

DESIGN	DS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D3137	SHEET 4 OF 5
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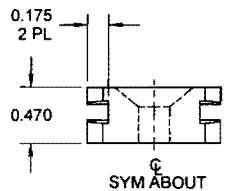
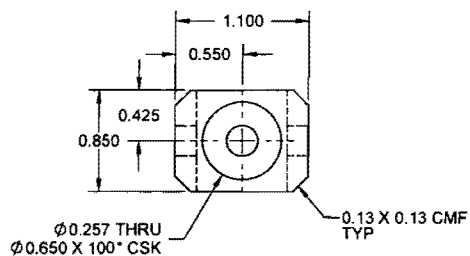
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

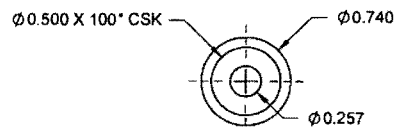
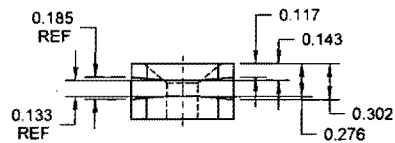
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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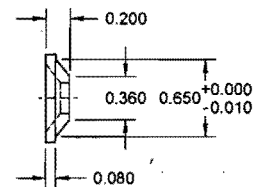
NOTE: Date & initial all entries



D3137-3 GUIDE



D3137-5 WASHER



NOTES:

- 1) MATERIAL: -3
DELRIN II 150E OR ACETRON GP ACETAL, BAR
(REF DART SPEC M-DELRIN-B)
- 5
6061-T6 (OR 6061-T651/ T6510/ T6511/ T62) ALUMINUM BAR
PER-AMS-QQ-A-225/8 (OR AMS 4117/ 4128/ 4145/ 4116)
OR PER-QQ-A-200/8 (OR AMS 4160)
REF. DART SPEC M6061T6R
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 (-5 ONLY)
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: SEE ASSEMBLED WEIGHT ON SHEET 2
- 8) -3 REPLACES PREMIER P/N B30-2300-207
-5 REPLACES PREMIER P/N B30-2300-209

RELEASED
80702/14

DESIGN	DS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D3137	SHEET 5 OF 5
APPROVED		TITLE	SCALE
DE APPR.		BRACKET ASSEMBLY	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries